

Sudanese library anxiety constructs

K.A. Abusin

Sudan University of Science and Technology

A.N. Zainab and Noor Harun Abdul Karim

University of Malaya

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Abstract

Library anxiety is manifested in the form of negative feelings, fear, stress, distress, confusion and has debilitating effects on students' academic performance, which makes it a serious phenomenon for investigation. This study explores library anxiety amongst Sudanese university students and identifies factors that contribute to this phenomenon. The factors were identified using the diary approach collected from 51 third year undergraduate students who were taking the research method course at the Sudan University of Science and Technology for the first time. The analysis of diary entries revealed eight library constructs named Sudanese Library Anxiety Construct (SULAC). The constructs comprises Negative perceptions towards academic library environment, Negative perceptions towards library staff, Affective barriers, Negative perceptions towards peers, Negative perceptions towards library services, Negative perceptions towards library collections, Negative perceptions towards library regulations, and Cognitive barriers. Details of factors underlying each construct are described.

Keywords

library anxiety, library avoidance, academic libraries, Sudan University of Science and Technology

A high proportion of Sudanese university students expressed feelings of fear and anxiety when using the library to write their first research paper.

Introduction

Previous researches on library anxiety, mainly conducted in the United States, found that the phenomenon is prevalent among American college students (Mellon, 1986a). These students were often required to do their assignments, which involved conducting library research, and to submit them within a specific period of time. It was at this stage that students frequently felt lost. Firstly, students did not know how to begin their search. Secondly, they had little knowledge of the library (Bostick, 1992), often being confused by the layout of the collections which were spread over various floors. Thirdly, when students failed to locate the resource they needed they felt confused and did not know what to do. The students did not approach librarians for help, fearing to reveal their inadequate library skills (Mellon, 1986b; Onwuegbuzie, 1997). As a result, they felt ashamed or blamed themselves and develop self-defeating thoughts.

They perceived librarians as intimidating, unapproachable and knowledgeable, but they appeared to be too busy and students were therefore reluctant to ask the librarians for help. This problem with librarians is known in the literature as 'Barrier with the staff' (Bostick, 1992; Onwuegbuzie, Jiao and Bostick, 2004). These students also felt uncomfortable and insecure inside the library, which they perceive as unwelcoming. This feeling is defined as "comfort with the library as a place" (Jiao and Onwuegbuzie, 1998). If they managed to locate the resources needed and wanted to make photocopies, but were unable to

Corresponding author:

Professor A.N. Zainab, Library and Information Science Unit, Faculty of Computer Science and Information Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia. Phone: +(603)79676381. Fax: +(603) 79676339
Email: zainab@um.edu.my

do so because the photocopy machines were out of order, the students would encounter anxiety known as "mechanical barrier" (Onwuegbuzie, 1997). In these circumstances the students would avoid going to the library altogether and this behavior affected their library use and academic performance (Bostick, 1992).

The above descriptions are related to anxiety feelings among American students using a large and well equipped academic library. When studying this phenomenon in developing countries, which face many challenges in the areas of library and information services and resources, regional and cultural differences need to be considered. The researchers felt that there was a need to explore whether or not Sudanese students encounter similar anxieties when using their academic libraries. This study, therefore, aims to explore library anxiety situations among Sudanese students and to present the constructs derived.

Literature review

Mellon (1986a) was the first to introduce the concept of library anxiety, when she found that students exhibited symptoms similar to math anxiety when using the library to write their first research paper. She analyzed the personal writings of 6000 students at a university in the United States for 2 years and used the results to develop a library instruction programme. Her study found that 75 to 85 percent of students expressed fear and anxiety when using the library, which was caused by the large size of the library, lack of knowledge about the location of materials, and not knowing how to start and continue their research. These confused feelings prevented students from using the library effectively. Mellon (1986b) observed that these feelings compelled some students to reduce the time they spent in the library and instead to spend money to photocopy the materials they needed. This feeling of anxiety remained undiscovered by either librarians or academic staff because students shied away from revealing their poor research skills. These feelings put them at risk academically and affected their performance of academic-related tasks (Mellon, 1986a).

Bostick (1992) identified five constructs of library anxiety, and developed a reliable library anxiety assessment instrument known as the Library Anxiety Scale (LAS), that determines a person's level of library anxiety. Bostick's five library anxiety constructs were: (i) barrier with the staff, (ii) affective barriers, (iii) comfort with the library, (iv) knowledge of the library, (v) mechanical barrier.

'Barrier with the staff' is identified in several instruments that measure library anxiety with minor differences in the terms used, such as interpersonal anxiety (Onwuegbuzie, 1997); lack of support (Jerabek, Meyer and Kordinak, 2001); staff factor (Shoham and Mizrachi, 2001); barriers concerning staff (Van Kampen, 2003, 2004) and staff approachability (Anwar, Al-Kandari and Al-Qallaf, 2004).

Bostick's (1992) 'affective barriers' refers to anxiety which stemmed from students' negative perceptions about their research abilities and library skills, and was termed in other studies as 'perceived library competence' (Onwuegbuzie, 1997) and 'feelings of inadequacy' (Anwer, Al-Kandari and Al-Qallaf, 2004).

Bostick's (1992) 'comfort with the library' refers to anxiety caused by feeling of being unwelcome, threatened, and uncomfortable inside the library, and was named in other studies as 'perceived comfort with the library' (Onwuegbuzie, 1997), 'comfort level while inside the library' (Jerabek, Meyer and Kordinak, 2001), and 'environment factor' (Van Kampen, 2004).

'Knowledge of the library', which is associated with students' lack of knowledge of how to use the library, how resources were organized and how to locate the needed materials has been variously termed as 'location anxiety' (Onwuegbuzie, 1997), 'knowledge factor' (Shoham and Mizrachi, 2001), 'not confident in using the library' (Jerabek, Meyer and Kordinak, 2001), and 'lack of knowledge of how to use the library' (Van Kampen, 2004).

'Mechanical barrier' refers to anxiety caused by difficulties in operating machines in the library, like photocopiers, change machines and computers. This is termed in other studies as 'mechanical anxiety' (Onwuegbuzie, 1997), 'technical/procedural frustration' (Jerabek, Meyer and Kordinak, 2001), 'computer comfort factor' (Shoham and Mizrachi, 2001) and 'technology comfort level' (Van Kampen, 2004).

Other studies found other anxiety dimensions such as 'resource anxiety', which was triggered by inadequate or outdated and inaccessible collections in the library (Onwuegbuzie, 1997; Shoham and Mizrachi, 2001; Sullivan-Windle, 1993). 'Language barrier' is another dimension that refer to difficulty in using collections in languages other than the user's native language (Shoham and Mizrachi, 2001; Jiao, Onwuegbuzie and Lichtenstein, 1996; Jiao and Onwuegbuzie, 1997, and Anwar, Al-Kandari and Al-Qallaf, 2004).

'Library-anxious students' have been characterized as being apprehensive, frustrated, helpless (Onwuegbuzie (1997), tensed, uneasy, having self-defeating

thoughts, feeling uncertain, and mentally disorganized (Onwuegbuzie, Jiao and Bostick, 2004). They tended to be young, male, in their first year of study, did not speak English as their native language, had high levels of academic achievement, and were engaged in either part-time or full-time employment (Jiao, Onwuegbuzie and Lichtenstein, 1996; Ben Omran, 2001). These students exhibited library avoidance behavior (Carlisle, 2007; Andrews, 1991) and seldom visited the library (Balanli, Ozturk, Vural and Kucukcan, 2007). Library anxiety was also found to be associated significantly with academic procrastination, leading to failure to complete dissertations (Onwuegbuzie, Jiao and Bostick, 2004; Onwuegbuzie and Jiao, 2000).

Other constructs explored in relation to library anxiety have included students' levels of cooperative orientation (Onwuegbuzie and Jiao, 1998), information literacy skills (Jiao and Onwuegbuzie, 2001; Battle, 2004; Gross and Latham, 2007), and levels of critical thinking (Kwon, Onwuegbuzie and Alexander, 2007; Kwon, 2008).

Most researches mentioned above originated from the United States and were related to American college and graduate students or international students in American universities (Jiao and Onwuegbuzie, 1999a, 1999b) and African American students (Jiao, Onwuegbuzie and Bostick, 2004). Shoham and Mizrahi (2001) have studied library anxiety amongst Israel students and Anwar, Al-Kandari and Al-Qallaf (2004) observed signs of library anxiety among Kuwaiti undergraduate students. In view of these studies the researchers felt motivated to explore the library anxiety phenomenon among Sudanese university students.

Objectives

The first objective of this study was to explore the experiences and feelings equated with library anxiety through content analysis of diaries maintained by Sudanese students at the Sudan University of Science and Technology when using their library to write their research papers. The contents were transcribed and grouped into themes and framed into a model of constructs related to library anxiety relevant in the Sudanese context.

Methodology

This study explored library anxiety qualitatively by analyzing the contents of the diaries of 51 student volunteers from the Sudan University of Science and Technology. The diary entries were in Arabic and

helped to reveal the factors that respondents noted as contributing to their decision not to use the library and their feelings when using the library premises, sources, services and staff. The intention was to extract the factors from phrases and sentences noted by the students in their diaries and reword them in statements which were categorized into themes or constructs. The students were asked to jot down their thoughts and reactions to six open ended statements and questions.

- (a) How do you feel when you are using the library to write a research paper?
- (b) Jot down your feelings and thoughts when you are inside the library.
- (c) Describe problems you encounter in the library and how you feel about them.
- (d) What do you think about the library staff?
- (e) What do you think about the library services?
- (f) What do you think about the library collections?

The computer printed transcripts were checked by two peer debriefers to ensure the trustworthiness of the research design, the translation of entries from Arabic to English, and the theme categorization. After rewording some terms which were not understood, the final categorized annotations were subjected to verification by 16 of the 51 participants.

The results of the content analysis will be described under eight themes or constructs:

1. negative perceptions towards library environment
2. negative perception towards peers
3. negative perception towards library staff
4. negative perception towards academic library services
5. negative perceptions towards academic library collection
6. negative perceptions towards academic library regulations
7. affective barriers
8. cognitive barriers.

Results

Negative perceptions towards library environment

Thirteen factors were extracted under this construct and selected students' verbatim statements are provided under each factor.

Library layout. Some students were bothered about the layout of the library. "When the library is tidy and

organized properly, a student or a researcher would feel somehow relaxed”. “Library should maintain its attractiveness . . . bags should not be heaped and scattered at the entrance of the library”. “The library atmosphere is unappealing, depressing and discouraging for study; I do not enter the library unless I intend to write a research paper”.

Arrangement and cleanliness. Participants complained about the lack of arrangement and cleanliness inside the library, which made them reluctant to use the library. The students made the following remarks. “There is no arrangement, organization and tidiness in the library”. “Books on the shelves are covered with dust which represents a problem”. “Upon entering the library you see chaos in the arrangement of books and this is one of the main and important reasons why students tend not to enter the library”. “Maintaining an arranged and organized library is an essential condition so that students can achieve the purpose of using the library”. “Cleanliness of the library facilitates is important for studying so that students can easily find what they need”.

Lack of security. Students were concerned about the lack of security of their belongings inside and outside the library as they were required to leave their bags outside the library. “One of the disadvantages of the library is the lack of security”. “If a student leaves his properties on the table and goes outside the library for a while he may find, on his return, that some of his belongings will be missing”.

Shortage of library lockers. Regulations prohibited students from entering the library with their bags. Librarians provided students with lockers which were insufficient in number and posed security threats to bags left unattended outside the library. This situation made the students anxious, angry and avoid using the library. “Non-availability of library lockers requires me to frequently step out of the library to check on my bag for fear of it being stolen”. “The library management pinned notices that they are not responsible for the safety of any bag put outside the library lockers and yet do not provide sufficient number of lockers.” “The number of lockers is few compared with student numbers”. “. . . this forces the students to leave their bags and personal belongings outside the library as requested by library staffs who do not bear the responsibility for these properties, which are exposed to theft and tampering”. “Sometimes I come enthusiastically

to read but when I cannot find any lockers to keep my belongings, I leave upset and swear not to come back again to the library. I am really angry with library management as they do not provide the satisfactory number of library lockers”.

Crowding in the library. Participants complained of overcrowding in the library and this triggered feelings of anxiety, distress and restlessness as indicated by the following comments: “Anxiety in the library occurs due to the crowd inside the library . . .”. “When I am inside a crowded library I feel upset and restless”. “The library is sometimes full and there is no place to sit and this upsets me”. “Due to the crowd in the library most students are forced to leave the library borrowing the reference source [they need] for photocopying which are costly for them”. “I entered the library at exam times but I could not stay or concentrate due to the crowd”.

Disturbances. Participants complained about being disturbed by noise caused by the library furniture and equipment being moved around, noise created by students’ conversations, and use of mobile phones in the library, as indicated by the following statements: “Noise inside the library is made by the dragging of furniture . . .”. “The noise of the photocopiers and the crowd of students around them disturbed me and this affected my concentration”. “Noise resulted from students constantly entering and leaving the library affected my concentration”. “Disturbances in the library are caused by the noise students make while looking for books and references”. “One thing that upsets me in the library is when some students come to the library to chat. This disturbs me and the others and makes the library very noisy”. “The library staffs often prohibit student from talking loudly, but they chat loudly among themselves”. “Some of the library staff converse loudly with their visitors and disturbed student who have come to read”. “Many students receive their calls in the library and the tones of the mobile phone disturb others”. “Some students chat and talk on their mobile as though they are sitting in a café. Such behaviour should be penalized . . .”. “Quietness is important in a library or otherwise it would turn it into an unruly place like a market”.

Poor lighting. Students were generally satisfied with the lighting in the library: “One of the positive things about the library is its good lighting”. Yet, some pointed out, “Many times I have to leave the library

because the library is not well-equipped or because of the lighting or lack of references”.

Offensive smells. Students complained about offensive smells inside the library that made them feel uncomfortable and leave the library or refrain from repeating the visit: “During my university years I came to the library only a few times... The library is smelly, overcrowded and the seating is insufficient”. “Often the atmosphere in the library is so smelly that you think twice before going there let alone do your reading there”. “Generally the library itself is clean but some students take off their shoes while they sit in the library. This makes the library smelly and causes many students to leave the library”. “The library staffs eat and drink inside the library. The smell of food together with students overcrowding and poor air-conditioning make the library unbearable”.

Poor ventilation. The lack of good ventilation caused students to feel anxious and uneasy and limits the benefits obtained from the library: “I feel restless and anxious inside a library because the atmosphere is not conducive especially the air-conditioning”. “One shortcoming of the library is the poor air conditioning, and so sometimes I go out to take a breather before going back to the library”. “The atmosphere is mostly hot in the library”.

Inadequate seating places. Students complained about not getting seats in the library, which made them feel uneasy and anxious: “One of the things that displease me when I come to the library is not being able to find a seat to sit on”. “The lack of seats in the library disturbs students, since there is no place either to write or research or study”. “Seats should be good and comfortable so that the students can sit for a long time without feeling bored”.

Library size and space. Students found the library small and this resulted in overcrowding and made them anxious, distressed and stifled: “One shortcoming of the library is lack of space”. “The library is located in a small area compared to the number of students it serves”. “The library is always crowded at peak hours and at times some students have to leave as there are no seats”. “The library building is so small that the noises and movements of students and library staff is audible and this distresses me”. “The corridors between bookshelves and reading places are so narrow which result in overcrowding”. “The lack of spaces between seats

caused students to be stressed and anxious”. “In the library I feel stifled as the spaces between seats are small and one has no freedom of movement especially after being seated for a long time ...”.

Inappropriate location of the library. Students noted the unsuitable location of the library, which negatively affects their access: “Our library lies on the ground floor and we often hear noises from the outside, especially the ones from the upper floors caused by movement of some pieces of furniture”. “The university library is near the students centres which is so noisy... It is also close to a car garage and all this cause noises, which disturb students”.

Mingling of sexes. Students noted being anxious and uncomfortable about the mixed gender seating areas in the library: “The separation of seating places for male and female students will provide a quiet anxious-free atmosphere”. “The mixed seating upsets me”. “It is advisable to separate the seating places for male and female students”.

Negative perceptions towards library regulations

Students were distressed about some library regulations such as the opening and closing hours, limited book loans and prohibiting taking books outside the library for photocopying: “The library’s working hours should be increased until 11:00 pm”. “The library is not open all day and this is a disadvantage... because the researcher cannot use the library at any time but between 9:00am and 6:00pm”. “One of the disadvantages of the library that makes it unattractive to students is limiting borrowing to one book at a time and the library does not allow borrowing after 3:00pm, during which times the student maybe busy with lectures”. Some students complained about the library regulations that prohibit them from discussing with their peers inside the library.

Negative perceptions towards peers

The analysis indicated that peers were a source of anxiety, dismay and uneasiness, resulting in loss of concentration.

Peers causing disturbance in the library. Students were disturbed by students talking or discussing in groups or using their mobile phones: “I feel anxious and restless by the noise made by some students”.

Table 1. Environmental factors related to library anxiety

Construct 1: Negative perceptions towards library environment (N = 51)	Students (%)
Disturbances, noise in the library cause anxiety, stress, lost of concentration and library avoidance.	63
Size and space constraints inside the library restrict and expose students to noise/ disturbance.	61
Crowding in the library causes anxiety, stress, lost of concentration and force students to leave.	57
Inadequate seating areas cause anxiety, discourage students from coming to the library.	55
Poor arrangement and cleanliness prevent students from locating needed materials.	35
Lack of security for possessions inside and outside the library cause stress and library avoidance	29
Insufficient library lockers cause concern about property safety, cause stress and library avoidance.	25
Poor ventilation triggers anxiety, uneasiness.	25
Library layout is unattractive and cause discomfort.	21
Offensive smells inside the library makes students uncomfortable, leaving/refraining from visiting	19
Students are uncomfortable and anxious about mixed gender seating in the library.	15
Poor lighting.	14
Library is located near disturbing and noisy places.	10

“... Some students use the library as a place to hold group revision”. “Students cause mental stress to other library-users as they talk and study in groups inside the library and this affect others as it becomes difficult to concentrate”. “One thing that upsets me is that some students come to the library to chat, which disturbs the others and they also break the rule ...”. “Many students received their calls inside the library, and the phone tones disturb the others”. “... Such behaviour must be punished so that the regulation of the library is upheld”. “Some students eat and drink in the library and this cause stress for other library users”.

Peers mishandling books and reference resources. Students were stressed by peers who mishandled

Table 2. Library regulations related to library anxiety

Construct 2: Negative perception towards library regulations	Students (%)
Students criticized about regulations related to opening and closing hours, limiting book loans to one book at a time, prohibiting loans for photocopying, and group discussions in the library.	33

Table 3. Peer behaviours related to library anxiety

Construct 3: Negative perceptions towards peers' behaviour in the library	Students (%)
Peer causing disturbances, by discussing in groups, using mobile phones, chatting, eating and drinking. This led to anxiety and library avoidance	67
Peers mishandle books by tearing pages and writing silly remarks on pages.	23
Peer purposely miss-shelve books causing frustrations, anxiety and helplessness.	12

books and references: “Students caused stress for library users through their irresponsible mishandling of books and references”. “Many students have the habit of tearing off books or references when required to do research instead of writing notes for themselves”. “Many students write silly remarks in reference books”.

Peers hiding books. Students became frustrated with peers who mis-shelved books. “Some students have the habit of hiding books which are limited in the number of copies by changing the location... so that other students cannot find them, while they themselves could find those books easily when they return to the library”.

Negative perception towards library staff

Students had negative perception towards the library staff and this prevented them from seeking their help. Students perceived library staff as people who are serious, at times provoking, unco-operative, do not provide instructions to users, do not maintain order in the library or re-shelve books used by students. Librarians were also perceived as lacking in initiative to help students, unqualified and indifferent.

Indifferent staff. Students complained that library staffs treated them indifferently and this evoked feelings of dislike, stress, anxiety and confusion among students. “Some of the library staffs are indifferent when dealing with students and so students dislike them”. “The library staffs sometimes speaks to students in a rough or curt manner and this make students stress and anxious”. “One thing that upsets me in the library is the impolite manner which the library staff treat the student”. “The library counter staffs treat the students in a demeaning way that causes confusion and frustration”. “Bad treatment by the library staff makes students leave the library. They humiliated the students who approached them”.

Irritable staff. Students perceived the library staff as irritable and this prevented them from asking for help: “The library staffs are ill-tempered and irritable when asked about the location of a book”. “The library staff should be more patience and establish good relations with the students”.

Staff discriminatory behaviour towards students. A few students accused library staff of bias treatment, giving more attention to relatives or students whom they know personally. “Some of the library staffs are discriminatory in their relation with the students . . . the student whom they knew or were related [to them] will receive special treatment such as giving permission to borrow books for longer periods of time or allowing to take books home despite the library rules prohibit this. This, consequently, affects student’s perception of library staff”.

Staff not providing instruction to the students. Students perceived that library staffs were not helpful in guiding students to locate books, or teach students how to carry out research: “. . . The library staffs do not do their duties in guiding and helping students who are in need of their knowledge and expertise regarding the ways of writing up for research”. “The first time I was required to write a research paper it was natural for me to go to the library . . . because I did not know the location of the book, I asked the librarian in charge on how to find the books I needed. She merely pointed at the place and asked me to find the book myself . . . When I asked her to accompany me to locate the book, she excused herself. This made me upset I lost all enthusiasm with which I came in for . . . I did my best, and found the book only after a long search which took most of my time and made my first day

fruitless”. “The library staff should understand that their duty is to serve students and guide them on how to search in the library . . . This is the work they are paid for”. “When the student asks the library staff about the location of books they mostly receive discouraging replies such as look for yourself until you find them”.

Staff does not maintain order in the library. Students complained that library staffs did not maintain order inside the library such as ignoring students who talked loudly, and not closely monitoring students. Staffs themselves were accused as the cause of disturbances by chatting, talking loudly when entertaining their visitors: “One bad thing about the library is the indifference of the library staff towards students who talk loudly”. “The non-supervision of student, while in the library encourages such practices of tearing off books and references”. “The library staffs . . . talk loudly to each other . . . they laugh and chat and therefore disturb the students”. “Many of the library staff receive their visitors inside the library and talk to them about topics outside the scope of their work and so disturb the students”. “I heard the librarian talking and arguing with another staff although she prevents students from talking . . . Then I asked myself what a contradiction! . . . I decided to leave the library to calm myself. I went to the counter and informed the staff that I am leaving . . . The same librarian yelled at me, ‘Do you not know that talking is prohibited in the library?’ I felt so upset. From that time on I did not feel kindly towards the library . . . I have developed a vague feeling similar to fear”.

Poor re-shelving of books by staff. Participants perceived that library staffs did not re-shelve books, which made locating needed items difficult and causing anxiety: “Should a student leave the book on the table the other students cannot find it. It is the responsibility of the library staff to return the book to its location on the shelf as soon as the student finishes using it”. “The problem is when I have to do my research, the books on ‘computer science’ should be in the place labeled ‘computer science’. But it seems that library staffs do not make an effort to arrange books properly, so much of students’ time is wasted, particularly since they are required to accomplish their tasks in a short time”. “You find books on mathematics mixed up with those on chemistry, and the physics or reference books mingled with those on Islamic culture”.

Table 4. Library staff's behaviours related to library anxiety

Construct 4: Perceptions towards library staff	Students (%)
Library staffs treat students indifferently and this caused feelings of dislike, stress, anxiety and confusion.	65
Library staffs did not re-shelve books, so students fail to locate items on the shelves and become anxious, and helpless.	61
Staffs are not helpful, do not guide students to locate or search for needed information or books, generating feelings of anxiety, helplessness, and consequently library avoidance.	47
Library staffs do not maintain order in the library and students are disturbed by various noises and negative behaviors of peers inside the library.	31
Library staffs are irritable and this prevents students from asking for help, and makes them feel tensed.	29
Library staffs are not professionals and some are not aware of the location of books and reference resources on the shelves and have no expertise in searching for references, making students feel helpless and confused.	17
Staffs' discriminative behaviors and bias towards their relatives or some students create feelings of dislike, frustration and anger.	8

Staff perceived as lacking in professional knowledge. Students perceived library staffs lacked professional knowledge as they seemed unaware of the location of books or reference resources on the shelves and did not know the methods of searching for references. This situation is not helpful for some students: "The library staffs are inefficient as they are ignorant of books in some fields and their location in the library". "The library staff should be knowledgeable about the location of all books in the library".

Negative perception towards library services

Students were not happy about the insufficient number of relevant and current books in the library. They were concern about the lack of aids to help them locate materials on the shelves in a speedier manner, the provision of adequate numbers of photocopiers and library lockers.

Lack of relevant and current books. Students were dissatisfied and distressed with the lack of up-to-date books and reference resources, making them want to leave the library: "I entered the library urgently wanting to complete my task as quickly as possible, but the library was disorganized, over-crowded and lack useful and current reference resources". "You feel distressed and disappointed when you search unsuccessfully for an extremely important book or piece of information, or you might find the book but the information it contains might be either useless or not current [especially] publications in sciences and technology". "I cannot find some text books despite the fact that they are supposed to be sufficient copies. Even when I get them at times they do not help me carry out the research and so I have to search the Internet from the nearest Internet cafe".

Lack of loan services. Students were upset about the absence of loan services. One student wrote: "A problem faced by the students in the library is the absence of loan services". "I face difficulties when attempting to get the book photocopied outside the library building".

Absence of library catalogues. The unavailability of finding aids or catalogues made students anxious and stressful as they could not locate items quickly from the shelves. The students seemed unaware of the existence of "library card catalogue" or, "online library catalogue": "There was great stress inside the library as the method used to locate a book is inappropriate and the library management does not provide effective methods to facilitate search". "A shortcoming of the library is that you can only obtain the book when searching for it on the shelves". "A list of the titles of text books held at the library should be provided so that the search process will be speedier". "A computerized database devoted to books should be established to enable the student to search for materials and locate them".

Shortage of photocopiers. Students complained about the shortage of photocopiers which frustrate them and compelled them to borrow textbooks and make photocopies outside the library building: "It upsets me when the library is short of photocopiers as this situation forces me to go to photocopiers outside the library, thus depriving the other students of their right to access the books". "I asked one of the library staff about a reference resource and he answered that it was borrowed by a student who took it to photocopy it

Table 5. Libraries services related to library anxiety

Construct 5: Perception towards library services	Students (%)
Shortage of photocopiers frustrates students and compelled them to borrow textbooks and make photocopies outside the library building.	57
Absence or limiting loan service causes anger and dissatisfaction.	43
Library does not provide access tools to its collection and need to introduce card or electronic catalogue.	39
Books and reference resources are out-of-date and irrelevant to students' needs, making them feeling disappointed, anxious and leaving the library to find other alternatives (Internet).	35
Library does not provide adequate signage indicating the location and subjects of books on the shelves. This makes the search process difficult, time consuming and frustrating.	15

outside as the library photocopiers was not working. At that moment I felt helpless and this prevented me from successfully completing any task”.

Inadequate provision of printed signage. Students claimed that their library did not provide adequate signage that shows the location books on the shelves. This prevented them from quickly finding the items needed: “... there were some shelves with no subject labels”.

Negative perception towards the library collection

Inadequate provision of books and references. Participants complained that their library did not provide sufficient books and reference resources and not finding what they wanted made them anxious, upset, resentful and disappointed: “A problem that makes the library unhelpful for students is the lack of sufficient reference books for writing research”. “We were asked to do a research in a university subject but because the references were not at hand in the library I felt disappointed”. “A thing that produces anxiety in the library is that reference materials are not available in large numbers”.

Inadequate provision of multiple copies of references. Students complained about the insufficient copies of

Table 6. Library collection characteristics related to library anxiety

Construct 6: Negative perception towards library collections	Students (%)
Library does not provide adequate number of books and reference resources, causing anxiety and prevent students from accomplishing their library task.	79
Library does not provide sufficient copies of heavily used books, students have to compete with their peers for access and consequently feel anxious or annoyed.	27
Lack of non-book materials in the library such as audiovisuals, electronic and Internet resources, internet services, electronic periodicals, and this caused dissatisfaction.	25

heavily used books, forcing them to use alternative sources such as the Internet: “Many times I have to leave the library simply because the library resources are inadequate and the reference resources are unavailable”. “A thing that upsets me is the lack of sufficient numbers of text books which forces students to leave and go to the Internet which is costly for them”. “.. the library lacks resources that helps in writing the literature review”.

Scarcity of non-book materials. Students seemed bothered about the scarcity of non-book materials in the library such as audiovisuals, electronic resources such as the Internet, electronic periodicals and journals, with these comments: “The library should provide newspapers, photographs, films, and sound recordings”. “One shortcoming in the library is the absence of Internet services”. “A library should devote a part of its budget to provide computer facilities or electronic library”. “There should be a special location in the library to access the Internet services”.

Affective barriers

The students revealed affective barriers which induced stress, anxiety and hinders them from using the library effectively.

Feeling anxious when searching for materials. Students indicated being anxious and stressed when looking for books and references. If they failed to do so they would search at the shelves and this action took time: “The biggest problem of all is coming to the library to look for a certain book in the field of “management”,

for example, and you have to search all the shelves related to management which means that if there are twenty-five shelves devoted to management, then you have to scan all the shelves". If they find the book they were looking for they would feel relieved. "It is only natural that one is relieved when one finds the item sought after. This is the case when the student finds the book or reference resources in question without losing time or effort".

Alternatively, if the student finds the book he needed and start reading it, he might find it too exhausting due to the long search at the shelves and lose interest. One student wrote: "When I ask the counter staff about a certain book, 'Information Technology', for instance, they would say go to those shelves, which could contain 150 books, and search, and by the time I found it I would have lost the interest to read". If the student decided not to read the book he would either memorize the location of the book on the shelves or hide it so that he might locate and resume reading it later: "Some students have the habit of hiding books, which were limited in number of copies .. so that other students cannot find them, while they themselves could locate those books when they return to the library".

If the student found the book on the wrong shelves he would experienced the feelings of anger, annoyance and anxious: "Sometimes I intensely search for a book, say in the Arabic section but would find it shelved in the English section. This annoys me". "The biggest problem of all is coming to look for a certain book in the field of management ... and then you discover that the book is simply not there. But the last straw is finding the book on the shelves allocated for "financial accounting". You feel you want to cry!!"

Some students believed that their inability to find the book on the shelves was because the library staffs have failed to re-shelve the books: "... library staffs are not concern about re-arranging materials and looking for books waste much of students' time, particularly since they are required to accomplish their tasks in a short time. "... library staffs do not do their job by re-shelving the reference items on the correct shelf. Also, despite the presence of shelf labels devoted for certain reference item, you would be surprised to find items not related shelved there ... This affects the researcher and might lead him to swear at the library staff".

If the student cannot find what he is looking for he would feel depressed having wasted his time: "When I am required to write up my research and I cannot find a book to help me in the research writing I feel

stressed". Other related comments are; "What upsets me most during my search for text books is when I am unable to find those books. This makes me feel angry and depressed. If the tools for locating books are easier to follow, it would have saved my time and effort".

Students also complained about books being out-of-date, irrelevant or useless. In this situation the student felt anxious and depressed: "When you search for an extremely important piece of information or book and cannot locate it you feel depressed and disappointed or, alternatively you might find the book but with the information inside useless, and not up-to-date ...". A female student wrote, "I cannot find some text books despite the fact that they are supposed to be sufficient copies. Even when I get them at times they do not help me carry out the research and so I have to seek information from the nearest Internet café".

Students indicated facing problems during the research process, resulting in uneasiness and the desire to leave the library: "I lack knowledge about the appropriate searching tools in the library that could help me find the books I need. This makes me want to leave the library and leave it as soon as I could. This feelings itself displeases me. ... The lack of knowledge about the searching techniques is my biggest problem".

Students described the research process as being time consuming, leading to feelings of impatience, lost of concentration, boredom, or even leaving the library altogether. This is evident from the following comments: "One of things that upset me in the library is the amount of time I spend looking for a specific reference". "When I started to look for a reference item which took a long time to locate, I often felt that I might never find it and this upsets me and affected my concentration in writing up the research". "At times I feel bored and conscious that I am wasting time looking for references in the library and so I leave".

Anxiety as a result of low self-esteem. Students revealed their feelings of low self-esteem in terms of being ignorant about how to locate books or references and having problems of comprehending their subjects. These feelings are indicated by the following comments: "The first time I entered the library I was seized by fear and I cannot concentrate. This was not caused by the library itself but my ignorance of what it contained, the arrangement of references, method of

search, and how to find what I want. This feeling of being ignorant makes me upset". "I feel I am slow at comprehending some subjects and so I have to read aloud. This habit disturbs the others and so I prefer to read outside in the open air". "... I cannot understand what I am reading unless I read the text aloud".

Anxieties associated with academic library building. A large number of students experienced anxiety associated with the library as a physical place. They felt stressed the moment they think of going to the library: "At the mere thought of going to the library to obtain a certain piece of information makes me stressed until such time when I quickly accomplish what I am required to do and leave the library". "When I enter the library I am conscious of a desire to leave it as quickly as possible. If I have a research paper to write I would force myself to finish it quickly so that I can quickly leave. However, frankly, I am extremely uncomfortable". "Upon entering the library I feel stressful and anxious and wish to leave the library as soon as possible, sometime before completing what I have come for".

A number of students experienced feelings of anxiety when they are inside the library as indicated by the following comments: "When I enter the library I feel so uncomfortable and suffocated". "I feel as if there is no air in the library". "I entered the library and left immediately, I don't know why". "I had a headache after entering the library, not before". "When I enter the library, stress and frustration seizes me. This may be because I dislike the restriction of staying in one place for a long period of time" A male student said, "I cannot stay for a long time as it makes me bored".

A female student explained that she overcame the feeling of boredom by going to the library with her friends: "Many times I enter the library in the company of my friends so as not to feel bored. Their presence encourages me to stay longer time in the library... Their presence makes me forget that I am in a library".

One student pointed out that the absence of school libraries might be the reason he was incapable of using the university library effectively: "Lack of familiarity with my school library... has given rise to feelings of being impatient at staying inside the library for long periods of time".

Other comments expressing the feeling of anxiety are as follows: "The major problem facing me, while reading in the library, is I feel uneasy and stressful". "When I entered the library, I discovered that I did not have the desire to read anything". "In the library

I felt the need to read on a topic other than what I originally came for". "I cannot read there because I would feel so anxious and stressed that I cannot concentrate. I did my best to get used to it but was unsuccessfully... However, at present I always enter it either to write a research paper or to accomplish a task. I wish I could go there to increase my knowledge. My avoidance of the library is caused by the stress and anxiety I feel while I am there".

Anxieties associated with academic library staff. Some students expressed fear as the result of the treatment they received from library staff who yelled at them when they broke library rules. This is indicated by the following remarks: "I was very afraid in the beginning since the treatment by the library staff was harsh. I did not know the rules and entered with my bag and one of the counter staff shouted at me and this embarrassed me". "The library is a frightening place because library staffs are ill-tempered and annoying as they yelled at the students". The feeling of fear may reach an extreme point that the mere sight of the library staff would trigger anxiety: "When I entered the university the subject teacher asked me to write a research paper. I went to the library, then and even now I am still gripped with anxiety or fear when I see the library staffs. In fact the feeling is indescribable".

Anxiety caused by the feelings of being distracted. Students explained that distractions prevented them from using the library effectively: "The problems facing me in the library are preoccupations and absent-mindedness". This distraction could be due to the movement of the students and disturbances: "Excessive movements in the library disturb me and cause me to lose concentration while reading inside the library. So I always sit at the back of the library". A female student added: "I arrived at the library and sat down. There was noise. I experience impatience and boredom. I gave up reading and instead watch the people". The distraction might also be ascribed to daydreaming about other affairs unrelated to the library. Being distracted caused students to daydream: "Sometimes I fail to benefit from the library... due to thinking about affairs related to matters outside my university life". "While being in the library I have the habit of recollecting past unhappy events and so I experience great unease". "Sometimes I feel distracted and anxious caused by remembering the unknown future awaiting me".

Table 7. Affective factors related to library anxiety

Construct 7: Affective barriers	Students (%)
Expression of anxiety was noted by many students, including anxieties associated academic library as a physical place, with academic library staff and feelings of being distracted.	88
Students felt searching for books and reference is difficult and frustrating and therefore avoid going to the library.	78
Expression of library avoidance behavior appeared in many statements	45
Low self-esteem hinders students from using the library effectively, leading to library avoidance behaviors.	37

Avoid going to the library. Nearly half of the students showed signs of library avoidance behaviours. Carlisle (2007) stated that library avoidance is one of the negative effects of library anxiety. Onwuegbuzie, Jiao and Bostick (2004) noted that symptoms of library anxiety such as fear, tension and self-defeating thought can develop and culminate in library avoidance behaviours. A female student noted in her diary that she would accompany her friends to the library in order to reduce the stress she felt when she went alone. A male student stated that he tried to finish the library task as fast as possible to avoid staying in the library for a long time. Another student noted that he would borrow or photocopy books to avoid reading inside the library. One student noted that he forced himself to go to the library in order to do his assignment. He would sometimes leave the library before the task was accomplished. These examples show that some students escaped feelings of anxiety in the library by avoiding the library or going with their friends or leaving the library as fast as they could or avoiding long stay inside it.

Cognitive barriers

Students' diary entries identified a number of cognitive barriers which they faced when writing a research paper or studying a subject they believed to be difficult or outside their subject specialization or when they are required to read books written in a language other than Arabic.

Anxious when writing research papers. Students expressed anxiety when they are required to write a

Table 8. Cognitive barriers related to library anxiety

Construct 8: Cognitive barriers	Students (%)
Students felt cognitive barrier with the process of writing a research paper	53
Students felt cognitive barrier with subject they believe to be difficult or unrelated to their subject specialization.	16
Books written in English affects student's cognitive acceptance of the task given.	10

research assignment using the library. This anxiety might reach an extreme state that the student developed a feeling of hatred towards the library. A female student wrote: "When a teacher in the faculty asked me to write a research paper I felt stressed since I am not accustomed to going to the library and also because the library staff do not guide me to locate the information when I failed to obtain it myself. This made me hate entering the library".

Anxious because subjects are difficult. Students were anxious when studying about an unfamiliar subject. A female student noted: "If the subject I am researching about is known to me or I have background knowledge of, or the subject contains an interesting topic, I would experience pleasure doing it. However, if it was difficult to understand, I will soon get bored writing about it". Another student added: "Frankly, I felt upset and stressed in the library when the subject I study falls outside the range of my subject specialization or is difficult".

Anxious about textbooks are in the English language. Students expressed concern that they were required to use textbooks written in the English language as they felt unable to cope and this in turn caused anxiety: "At times I find the book is in English and I cannot benefit from it particularly since I am weak in English". "Some of the books in the library are written in English... we have difficulties comprehending the subject in Arabic let alone English. This is psychologically damaging".

Conclusions

The results confirmed the presence of feelings similar to those discovered by Mellon's (1986a) theory of library anxiety. There were similarities in experiences that trigger the feeling of anxiety amongst Sudanese

students although the elements which cause those experiences may be different. The analysis of the diaries found that 88 percent of students expressed feelings of fear and anxiety when they are using the academic library to write their first research paper.

The diary entries highlighted items under the various constructs that seem peculiar to Sudanese students and this indicates that perhaps anxiety is culturally bound. Issues such as arrangements and cleanliness in the library, lack of security due to inadequate lockers, disturbances caused by dragging of furniture, overcrowding, offensive smells from students' feet when they take off their shoes in the library, location of the library near noisy places, may be peculiar to libraries in Sudan and not indicated by the other anxiety studies. Another new condition is the anxiety caused by "mingling of the sexes" in the library seating areas which may be true for some Muslim countries which often practise segregation of seating areas between male and female students. There are other constructs which are indicated by other library anxiety studies, such as feeling of not being knowledgeable enough to locate items in the library or low self esteem, as indicated by Mellon (1986b) and Jiao and Onwuegbuzie (1997, 1998, 1999a, 1999b). The manifestation of library avoidance behaviors resulting in reluctance or delaying visits to the library and wanting to leave as soon as possible found in this study is also revealed by Van Kampen (2003, 2004), Grimes and Charters (2000), Bostick (1992), Carlisle (2007), Jiao and Onwuegbuzie (2001). Anxiety caused by not being used to a university library environment is also indicated by Mellon (1986a, 1986b) who proposed that feelings of being lost in the library may be due to the size of the university library when compared to school libraries. A factor not expressed by the Sudanese students is anxiety caused by mechanical barriers (Bostick, 1992; Jiao and Onwuegbuzie, 2004). This perhaps may be due the unavailability of library automated systems and computer or Internet workstations at the library and hence such issues have not arisen. Anxiety caused by not finding needed books on the shelves is indicated by Shoham and Mizrachi (2001) among students in an Israeli university. One interesting difference in causes of anxiety is indicated by the construct "negative perceptions towards library staff". While previous studies attribute this anxiety to staff demeanour (appearing intimidating and too busy to provide assistance) (Onwuegbuzie, 1997; Bostick, 1992; Shoham and Mizrachi, 2001), the Sudanese students related their anxiety to the "irritable"

behavior of staff who shout at those misbehaving, or to staff discriminatory behavior in giving services to those they know and to their relatives. In general, the diary entries show that the problem of library anxiety is still a relevant phenomenon amongst present day students in developing countries like Sudan and therefore requires investigation.

This is the first study in Africa to investigate the library anxiety phenomenon among university students. The study has provided a new dimension of library anxiety construct in a different library environment. These new dimensions will assist in developing a holistic picture of the phenomenon especially relevant to libraries in Sudan. The Sudanese library anxiety construct proposed in this study has provided rich information about various barriers to library use and can be used as the basis for quantitative testing to confirm the situation. The current study has helped to enrich knowledge on students' library use problems in Sudan as well as in other countries that share similar conditions. This could be of assistance when designing effective library education programmes to reduce library anxiety amongst students.

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About the authors

K.A. Abusin obtained his PhD from the University of Malaya in 2010. He is currently an academic staff at the Sudan University of Science and Technology. Contact: Library Affairs Deanship, Sudan University of Science and Technology, PO Box 407, Khartoum, Sudan. Phone: +249183778922. Fax: +249183792724. Email: abosinn@gmail.com.

A.N. Zainab is a Professor attached to Library and Information Science Unit, Faculty of Computer Science and Information Technology, University of Malaya. She obtained her PhD from the University of Loughborough in 2001. Her research interests are digital libraries, management aspects of library and information service and bibliometrics. Contact: Library and Information Science Unit, Faculty of Computer Science and Information Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia. Phone: +(603)79676381. Fax: +(603) 79676339. Email: zainab@um.edu.my.

Noor Harun Abdul Karim is a senior lecturer at Library and Information Science Unit, Faculty of Computer Science and Information Technology, University of Malaya. He obtained his PhD from Rutgers

University. His research interest includes management in library and information services; research method in LIS. Contact: Library and Information Science Unit, Faculty of Computer Science and Information

Technology, University of Malaya, 50603 Kuala Lumpur, Malaysia. Phone: +(603)79676356 Fax: +(603) 79676339. Email: nharun@um.edu.my.